

attributing a general marine origin to the Coal-beds, in support of which great stress has been laid upon the fact of the occurrence of minute spiral bodies found attached to some of the plant-remains, and formerly referred to *Spirorbis*, a marine genus of Annelida common upon our shores at the present day, where it is generally attached to sea-weeds, and is well known as *Spirorbis nautiloides*. These little spiral bodies of the Coal-measure plants have, however, been described by Göppert as a Fungus, under the name of *Gyromyces Ammonis*, and are figured by Geinitz in his fine work on the Coal-plants of Saxony*. We have here, therefore, an instance of the great caution required in drawing general conclusions from insufficient data, and would rather concur with the remarks offered on the subject at page 54 of this Journal, believing that the Coal-measures afford evidence of having been deposited under both freshwater and marine conditions.

EXPLANATION OF PLATE V.

Fig. 1 A-D. *Belinurus Reginæ*, n. sp. : A, B, natural size ; C, D, enlarged 3 diameters. (The dotted lines represent the part restored.)

Fig. 2 A, C. *Belinurus arcuatus*, n. sp. : A, detached cephalic shield, natural size ; B, the same, enlarged 2 diameters ; C, a small uncompressed specimen from a concretion.

Fig. 3 A, B. *Belinurus rotundus*?, Prestwich : A, natural size ; B, enlarged 3 diameters. (The dotted lines represent parts restored.)

XVII.—On new Species of Fishes from Victoria, South Australia.

By Dr. ALBERT GÜNTHER.

A COLLECTION of fishes from Victoria, sent to the International Exhibition, and procured for the British Museum, was distinguished by the unusually large size of the specimens. They are all stuffed, and unfortunately not accompanied by smaller examples preserved in spirits, so that we are obliged to leave the descriptions of the new species incomplete in some points. We hope, however, soon to make up for this deficiency, as we may expect further supplies from that colony.

Lates colonorum.

B. 6. D. 8 | $\frac{1}{10}$. A. $\frac{2}{8}$. L. lat. 55. L. transv. 8/21.

The specimen is 17 inches long, apparently a female, and rather extended by stuffing; the length of the head, however, appears to be a little less than one-third of the total (without

* Die Versteinerungen der Steinkohlenformation in Sachsen, pl. 34. figs. 1-3. Dr. Geinitz first called my attention to this little fossil on a Calamite-stem from a neighbouring colliery, in Mr. B. Edge's collection.

the caudal). Teeth minute, villiform; the bands on the palate are half as broad as those in the upper jaw; the vomerine band short, crescent-shaped, separate from the palatine bands. Maxillary broad, triangular. The præopercular limb is naked, finely serrated behind, and with coarse spinous teeth below, directed forwards; no large spine at the angle. Operculum terminating in a larger spine, with several smaller ones above; præorbital, sub-, and interoperculum finely serrated.

The dorsal fins are continuous at the base; the spines are strong; the fourth is the longest, its length being contained twice and a third in that of the head. Caudal fin slightly emarginate. The third anal spine is rather longer than the second, and as long as the sixth dorsal spine.

Uniform greenish-olive above, silvery on the sides and on the belly.

“Perch” of the colonists.

MELAMBAPHES.

Similar in general habit to *Glyphidodon*. Body covered with small ciliated scales; cheeks, opercles, and the soft parts of the vertical fins with very small scales. Of all the bones of the head, only the præoperculum is slightly crenulated. Each jaw with a series of trenchant tricuspid teeth, and with a broad band of villiform teeth behind; no teeth on the palate. Fourteen or thirteen spines in the dorsal fin, and three in the anal fin.

Having only one stuffed specimen for examination, we are unable to say whether this fish belongs to the Acanthopterygians proper or to the Pharyngognaths. If to the former, it is to be referred to the group *Cantharina*, and to the *Pomacentridæ* if it should prove to have the lower pharyngeals united. In either case it appears to be the type of a distinct genus, which we have so characterized that it may be readily distinguished from all the other Sparoid and Labroid genera.

Melambaphes nigroris.

Glyphisodon nigroris, Cuv. & Val. v. p. 485.

D. $\frac{14}{2}$. A. $\frac{3}{11}$. L. lat. 100.

We have but little doubt that the “Black Perch” of the colonists is the *Glyphisodon nigroris* of Cuvier and Valenciennes, although their description is extremely short, giving as the formula of the fins, D. $\frac{13}{4}$. A. $\frac{3}{12}$.

Glyphidodon Victoriae.

D. $\frac{13}{7}$. A. $\frac{2}{5}$. L. lat. 30. L. transv. 4/10.

The height of the body is somewhat less than one-half of the

total length (without the caudal). Teeth narrow, not emarginate, twenty-one on each side of the upper jaw. Infraorbital scaly; the width of the præorbital is two-thirds of that of the orbit. Five or six series of small scales on the cheek. Vertical fins scaly nearly to their margins. The third to the seventh dorsal spines are nearly of equal height, one-half of the length of the head. Caudal forked. Reddish-violet (in a dried state); fins blackish.

Nine inches long.

The "Rock-Perch" of the colonists.

Labrichtlys ephippium.

? *Labrus ephippium*, Cuv. & Val. xiii. p. 96.

D. $\frac{9}{11}$. A. $\frac{3}{10}$. L. lat. 27. L. transv. 3/10.

A posterior canine tooth. Cheek with three series of very small scales. Base of the dorsal fin not scaly. Each tube of the scales of the lateral line with numerous branches.

Coloration in a dried specimen:—Back violet-olive to the end of the spinous dorsal; head, belly, and tail reddish, the latter with a broad violet-olive band between the posterior halves of the soft dorsal and anal. A blackish spot behind the opercle; the pectoral, ventral, caudal, and spinous dorsal reddish or yellowish, the first with a black spot superiorly in the axil. The soft dorsal and the anal blackish-violet.

Seventeen inches long.

The "Parrot-fish" of the colonists.

Pseudophycis barbatus.

B. 7. D. 8 | 51. A. 58. V. 5. L. lat. ca. 140.

The ventral fin does not extend to the vent. Sixteen or eighteen series of scales between the anterior dorsal and the lateral line.

This fish is similar to its congener, *P. breviusculus*, Richards., from New Zealand, but may be readily distinguished by the characters given. We have received a specimen 17 inches long. The species is called "Rock-Cod" by the colonists. With regard to the characters of the genus *Pseudophycis*, we refer to 'Catal. Fish.' iv. p. 350.

Lotella callarias.

B. 7. D. 6 | 65. A. 57. P. 22. V. 7.

The two outer ventral rays produced into a filament. Uniform brown.

Similar to *L. fuliginosa*, Günth. (Catal. Fish. iv. p. 347), but with a shorter head, the length of which is one-fifth of the total (without the caudal). The ventrals, with the filament, are as long

as the pectoral; the barbel is not quite half as long as the head. The typical specimen is 19 inches long.

The fish is called "Cod" by the colonists.

Rhombosolea flesoides.

B. 6. D. 62. A. 41.

Similar to *R. leporina* (Günth. Catal. Fish. iv. p. 460), but with the body more elevated. Its greatest depth is rather less than one-half of the total length (without the caudal), the length of the head two-sevenths. Eyes separated by a narrow, low, naked ridge, the lower being in advance of the upper. A cutaneous flap is suspended from the maxillary, overhanging the mouth. The gill-opening does not extend upwards beyond the base of the pectoral. The dorsal fin terminates at a distance from the caudal, which is one-fourth of the depth of the free portion of the tail; the first dorsal ray is inserted immediately behind the maxillary appendage, and the four or five anterior rays are produced beyond the connecting membrane, but considerably shorter than those behind the middle of the fin, which are nearly half as long as the head. Caudal subtruncated, its length being rather more than one-sixth of the total. The length of the pectoral is somewhat more than one-half that of the head. Ventral fins as in *R. monopus* and *R. leporina*. Uniform brown.

Length of the typical specimen 14 inches.

Called "Flounder" by the colonists.

BIBLIOGRAPHICAL NOTICES.

The Flora of Essex. By G. S. GIBSON, F.L.S.

12mo. London: Pamplin. 1862.

MR. WATSON justly remarks, in his valuable 'Cybele Britannica,' that his difficulties in discovering the geographical distribution of plants in Great Britain have been greatly increased by the small number of good county floras. The works produced by the last generation of botanists are of course useless for his purpose, owing to the want of exactness so prevalent at the time of their production. Their authors had no idea that it was necessary, or even desirable, to do more than compile a simple catalogue of the plants found in their districts, and to record the localities of the rarer species. Doubtless such records as these are valuable, if the compilers were sufficiently good botanists to render their determination of the species trustworthy. Unfortunately, this was often not the case; and frequently plants were marked as "common," not from any certain determination of their frequency, but from an impression that such was the case. It thus became necessary for Watson to discover by